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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/660,544

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Arto Palin

4208-4144 (Nokia
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EXAMINER

PEREZ, ANGELICA

ART UNIT

PAPER NUMBER

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/660,544	Applicant(s) PALIN ET AL.	
	Examiner Perez M. Angelica	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/28/2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 25-29 is/are rejected.
- 7) ☒ Claim(s) 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 13 recites the limitation "the second UWB link" in line 6. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, the limitation will be considered as a link of type UWB different from the first link.

Claim Objections

2. Claim 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 24 depends on claim 23; therefore, it is objected for the same reasons as set forth above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 5 AND 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Aukland (Aukland et al.; US Pub. No.: 2003/0,078,037 A1) in view of Cho (Cho, Kwang Sun; CA 2 443 871 A1).

Regarding claims 1, 28 and 29, Aukland teaches of a method, system and computer program for establishing a wireless communications link (paragraphs 2, 53, 85 and 153), the method comprising determining by a wireless communication device (WCD) through a first short-range communications link of a first type whether a remote device is capable of supporting a short-range communications link of a second type (paragraphs 53 and 147, where the first device can be communication in a 3.5 GHz frequency characteristic of Bluetooth and the second device can be a UWB. Where sensing, selection and negotiation perform the inquires according to short-range protocols (e.g., BluetoothTM) about the abilities of a second communications device to support certain protocols, including a protocol of a second type to the one currently being used); and exchanging information by the WCD with the remote device across the first communications link to establish a second short-range communications link between the WCD and the remote device (paragraph 147 and 188; where protocol exchange communications take place), where the second short-range communications link is of the second type (paragraphs 147 and 188).

Although Aukland teaches the limitations presented by the applicant, Aukland does not specifically show where the BS is relaying communications to another device.

In related art concerning system, apparatus and method for wireless mobile communications in association with mobile ad-hoc network support, Cho teaches where a wireless communication device is communicating with a second communication device utilizing a first frequency through a fixed facility when an ad-hoc configuration has not been established, yet. However, once the ad-hoc link is established and the first devices exchanges information protocol with the second communication device, communication is done utilizing a second frequency through relaying devices of the ad-hoc network. See page11, paragraphs 1-4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's method of multiple standards and frequencies with Cho's communication between to devices in order to show how multiple frequencies are used in order to save resources by routing information in a more convenient manner, as taught by Cho.

Regarding claim 2, Auckland and Cho teach all the limitations of claim 1. Auckland further teaches of directing the remote device to start communication with the WCD after establishment of the second short-range wireless communication link (paragraph 147; e.g., "a base station may instruct the radio to move to a different frequency band...").

Regarding claim 5, Auckland teaches all the limitations of claim 1. Cho further teaches of communicating with the remote device by the WCD across the second short-range communications link (page11, paragraphs 1-4; where Bluetooth operates utilizing

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3.5 GHz frequency and UWB utilizes 5.0 GHz; where the UWB frequency is considered the second short-range communication link).

Regarding claim 10, Auckland and Cho teach all the limitations of claim 1. Auckland further teaches of establishing the first short-range communications link with the remote device (where the limitation is already present in claim 1, where both first and second links are short-range links).

5. Claims 3-4, 6-8 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auckland in view of Cho and further in view of Specification of the Bluetooth System, Feb. 22, 2001).

Regarding claim 3, Auckland and Cho teach all the limitations of claim 2. Auckland further teaches where the first short-range communications link is a Bluetooth link (paragraph 161; e.g., "Bluetooth") and the second short-range link communications link is an ultra wideband (paragraph 188; e.g., "wide band communication channel" for wide band communication links).

Auckland and Cho do not specifically teach of sending a Bluetooth link manager protocol (LMP) message to the remote device, the LMP message adapted to direct the remote device to begin accepting transmissions across the UWB link.

In related art concerning the specifications of Bluetooth systems, the Bluetooth specifications show of sending a Bluetooth link manager protocol (LMP) message to the remote device, the LMP message adapted to direct the remote device to begin accepting transmissions across the UWB link (page 207 and 232, subheading 3.11 and 4, where the connection establishment accepts establishment of communication. Also,

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the connection can be done from a Bluetooth device to an UWB as long as the Bluetooth initiates the request).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's establishment of a wireless communication with the Specification's Bluetooth request for connection with a UWB in order to provide higher rate communications among short-range devices as well as to reduce cost.

Regarding claim 4, Auckland and Cho teach all the limitations of claim 3. The Specifications further teach where the LMP message includes one or more TWB parameters (where in order to start the connection, it is required that at least data rate requirements is specified).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's establishment of a wireless communication with the Specification's parameters in order to set up communications according to short range connection requirements.

Regarding claim 6, Auckland and Cho teach all the limitations of claim 1. Auckland further teaches where the first communications link is a Bluetooth link (where claim 6 limitation repeats. It has been already addressed in claim 3).

Regarding claim 7, Auckland and Cho teach all the limitations of claim 1. Auckland further teaches where the second communications link is an ultra wideband (UWB) link (where claim 7 limitation repeats. It has been already addressed in claim 3).

6. Regarding claim 8, Auckland and Cho teach all the limitations of claim 1.

Auckland further teaches where the first communications link is a Bluetooth link and the second communications link is an ultra wideband (UWB) link (where claim 8 limitations repeat. They have been already addressed in claim 3).

Regarding claim 11, Auckland and Cho teach all the limitations of claim 10.

Auckland and Cho do not specifically teach where the first communications link is a Bluetooth link, the establishing step comprising: performing a Bluetooth paging process with the remote device.

The Specifications show where the first communications link is a Bluetooth link, the establishing step comprising: performing a Bluetooth paging process with the remote device (page 232, section 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland and Cho's short-range communication link with the paging used in Bluetooth in order to establish a connection link as established in the Bluetooth specifications.

Regarding claim 12, Auckland and Cho teach all the limitations of claim 1.

Auckland and Cho do not specifically teach of sending a request to the remote device across the first communications link, the request inquiring whether the remote device desires to establish the second communications link; and receiving an acknowledgement from the remote device through the first communications link, the acknowledgement indicating that the remote device desires to establish the second communications link.

The Specifications show of sending a request to the remote device across the first communications link, the request inquiring whether the remote device desires to establish the second communications link; and receiving an acknowledgement from the remote device through the first communications link, the acknowledgement indicating that the remote device desires to establish the second communications link (pages 232-233; where the acceptance /refusal to accept the connection is confirmed through an acknowledgment).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's short-range communication link with an acknowledgment that confirms the acceptance of communication as taught by the Bluetooth Specifications.

Regarding claim 13, Auckland, Cho and the Specifications teach all the limitations of claim 12. The Specifications further teach of sending a Bluetooth link manager protocol (LMP) message over the first link to the remote device, the LMP message adapted to inquire whether the remote device desires to establish the second UWB link (page 207 and 232-233, subheading 3.11 and 4, where a request for communication is issued by an initiating device. Also, the connection can be done from a Bluetooth device to an UWB as long as the Bluetooth initiates the request).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's short-range communication link with the Specification's LMP message in order to establish short range communications according to the protocols, as taught by the Bluetooth Specifications.

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7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Auckland and Cho and further in view of Moeglein (Moeglein et al.; US Pub. No.: 2005/0,037,775 A1).

Regarding claim 9, Auckland and Cho teach all the limitations of claim 8.

Auckland and Cho do not specifically teach where the UWB link employs a slot timing structure of the Bluetooth link.

In related art concerning a method and apparatus for wireless network hybrid positioning, Moeglein teaches where the UWB link employs a slot timing structure of the Bluetooth link (paragraph 76, where the timing slots, frames can be adapted to/from other air interfaces).

8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's multi-air interfaces with Moeglein timing frame exchange in order to provide dynamic systems capable of handling different air interfaces.

9. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auckland and Cho and further in view of Kim (Kim et al.; US Pub. No.: 2003/0,108,010 A1).

Regarding claim 14, Auckland and Cho teach all the limitations of claim 1.

Auckland and Cho do not teach of sending a Bluetooth link manager protocol (LMP) message to the remote device requesting packet type table including information identifying one or more supported links and packet types.

In related art concerning a wireless communication apparatus and a method using the same, Kim teaches of sending a Bluetooth link manager protocol (LMP) message to the remote device requesting packet type table including information identifying one or more supported links and packet types (paragraph 11, table 1; where the LMP is in charge of the messaging).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's short-range communications method/system with Kim's well know fact about data transmission procedures utilized in Bluetooth in order to obtain different performance according to the packet type.

Regarding claim 15, Auckland, Cho and Kim teach all the limitations of claim 14. Auckland further teaches where the second short-range communications link is an ultra wideband (UWB) link (where claim 7 limitation repeats. It has been already addressed in claim 3).

Regarding claim 16, Auckland, Cho and Kim teach all the limitations of claim 14. Auckland further teaches where the second short-range communications link is a high rate (HR) link (where Auckland teaches of UWB links, and where UWB links are inherently high rate links).

10. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auckland and Cho and further in view of Ito (US 2002/0,151,276 A1).

Regarding claim 17, Auckland and Cho teach of a wireless communications device (paragraph 2), comprising: a first segment adapted to exchange information with a remote device across a first short-range wireless communications link of a first type

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(paragraph 160, figure 6, item 616 or figure 11, item 604; where segments can be interpreted in many ways. Also, the transmitter unit/antennas are adapted to communicate utilizing short-wave links), and a second segment adapted to exchange information with the remote device across the second communications link (figure 11, item 604; where the segments can be two antennas).

Although Auckland teaches the limitations presented by the applicant, Auckland does not specifically show where the BS is relaying communications to another device.

In related art concerning system, apparatus and method for wireless mobile communications in association with mobile ad-hoc network support, Cho teaches where a wireless communication device is communicating with a second communication device utilizing a first frequency through a fixed facility when an ad-hoc configuration has not been established, yet. However, once the ad-hoc link is established and the first devices exchanges information protocol with the second communication device, communication is done utilizing a second frequency through relaying devices of the ad-hoc network. See page11, paragraphs 1-4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's method of multiple standards and frequencies with Cho's communication between to devices in order to show how multiple frequencies are used in order to save resources by routing information in a more convenient manner, as taught by Cho.

Auckland and Cho do not specifically teach where of a host coupled to the first segment, the host adapted to cause the first segment to exchange information with the

remote device across the first communication link to set up a second short-range wireless communications link of a second type in response of determining through the first short-range communication link to set up a second short-range wireless communications link of a second type, the information including one or more parameters of the second short-range communications link; and a second segment adapted to exchange information with the remote device across the second communications link.

In related art concerning a wireless communication device and method, Ito teaches of a host coupled to the first segment (figure 1, items 4A-4d; where host devices are coupled to item 3), the host adapted to cause the first segment to exchange information with the remote device across the first communication link to set up a second short-range wireless communications link of a second type in response of determining through the first short-range communication link to set up a second short-range wireless communications link of a second type (paragraph 28; where each host can communicate utilizing different ranges of frequency links).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's device with Ito's host devices in order to allow direct communication with external equipment, as taught by Ito.

Regarding claim 18, Auckland, Cho and Ito teach all the limitations of claim 17. Auckland further teaches where the first communications link is a Bluetooth link (paragraph 161; e.g., "Bluetooth").

Regarding claim 19, Auckland, Cho and Ito teach all the limitations of claim 17. Auckland further teaches where the second communications link is an ultra wideband (UWB) link (paragraph 188; e.g., "wide band communication channel" for wide band communication links).

Regarding claim 20, Auckland Cho and Ito teach all the limitations of claim 17. Auckland further teaches where the first communications link is a Bluetooth link (paragraph 161; e.g., "Bluetooth") and the second communications link is an ultra wideband (UWB) link (paragraph 188; e.g., "wide band communication channel" for wide band communication links).

Ito further teaches where both links connecting the host to the remote device (paragraph 6; where if there is a host as in ad-hoc networks, the host can be the intermediary between devices and communicate in the same frequency as the devices; e.g., Bluetooth and UWB).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's and Cho's device with Ito's host devices in order to allow direct communication with a variety of external equipment, as taught by Ito.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Auckland, Cho and Ito; and further in view of Moeglein.

Regarding claim 21, Auckland, Cho and Ito teach all the limitations of claim 20. Auckland further teaches where the UWB link employs a slot timing structure of the Bluetooth link.

Auckland in view of Ito does not specifically teach where the UWB link employs a slot timing structure of the Bluetooth link.

In related art concerning a method and apparatus for wireless network hybrid positioning, Moeglein teaches where the UWB link employs a slot timing structure of the Bluetooth link (paragraph 76, where the timing slots, frames can be adapted to/from other air interfaces).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's Cho's and Ito's multi-air interfaces with Moeglein's slot timing structure in order to provide dynamic systems capable of handling different air interfaces.

12. Claims 22 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auckland, Cho and Ito; and further in view of the Specification (Specification of the Bluetooth System, Feb. 22, 2001).

Regarding claim 22, Auckland, Cho and Ito teach all the limitations of claim 20.

Auckland, Cho and Ito do not specifically teach where the first segment includes a link manager adapted to exchange one or more Bluetooth link manager protocol (LMP) message with the remote device, the LMP message adapted to direct the remote device to begin accepting transmissions across the UWB link.

The specifications teach where the first segment includes a link manager adapted to exchange one or more Bluetooth link manager protocol (LMP) message with the remote device, the LMP message adapted to direct the remote device to begin accepting transmissions across the UWB link (page 207 and 232, subheading 3.11 and

4, where the connection establishment accepts establishment of communication. Also, the connection can be done from a Bluetooth device to an UWB as long as the Bluetooth initiates the request).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's, Cho's and Ito's with the Bluetooth request for connection with a UWB in order to provide higher rate communications among short-range devices.

Regarding claim 25, Auckland, Cho, Ito and the Specifications teach all the limitations of claim 22.

The Specifications further teach where the one or more LMP messages includes an LMP message adapted to inquire whether the remote device desires to establish the UWB link (page 207 and 232-233, subheading 3.11 and 4, where a request for communication is issued by an initiating device. Also, the connection can be done from a Bluetooth device to an UWB as long as the Bluetooth initiates the request).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's, Cho's and Ito's with the Bluetooth request for connection with a UWB in order to provide higher rate communications among short-range devices.

Regarding claim 26, Auckland, Cho, Ito and the Specifications teach all the limitations of claim 22.

The Specifications further teach where the one or more LMP messages include an LMP message adapted to determine whether the remote device is capable of

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supporting the Bluetooth link and the UWB link (page 207 and 232, where the capability inquiry comes before the connection establishment).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's, Cho's, Ito's and Specification's establishment of a wireless communication with the Specification's further teachings about the connection capabilities ahead of time according to the short-range protocols.

13. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Auckland, Cho, Ito and the Specification; and further in view of Kim.

Regarding claim 27, Auckland, Cho, Ito, and the Specifications teach all the limitations of claim 26. Auckland Cho, Ito, and the Specifications do not teach where one of the link manager protocol (LMP) messages includes a packet type table request message.

In related art concerning a wireless communication apparatus and a method using the same, Kim teaches where one of the link manager protocol (LMP) messages includes a packet type table request message (paragraph 11, table 1; where the LMP is in charge of the messaging).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Auckland's, Cho's Ito's and the Specification's short-range communications method/system with Kim's well know fact about data transmission procedures utilized in Bluetooth in order to obtain different performance according to the packet type.

Response to Arguments

14. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 6:00 a.m. - 2:00 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.



Angelica Perez
Examiner



2-19-07
Lana N. Lo
Primary Examiner
Technology Center 2600

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February 15, 2007